FLOOD-STAGE REPORT FOR DECEMBER 1940—Continued

River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	Stage	Date
	Feet			*Feet*	
Brazos:					
Hempstead, Tex	40	(2)	2	44.1	Nov. 30
Richmond, Tex	35	(2)	4	(3)	
Guadalupe:					
Gonzales, Tex	20	13	14	22.2	13
		16	18	29.0	17
Victoria, Tex	21	14	22	27.4	21
PACIFIC SLOPE DRAINAGE					
Eel: Fernbridge, Calif	18	24	25	19.0	24
Sacramento Basin					
Sacramento: Red Bluff, Calif	23	24	24	24.8	24
		27	27	23.9	27
Knight's Landing, Calif	30	25	31	31.4	28
Columbia Basin					
Long Tom: Monroe, Oreg	10	21	25	11.7	23
		27	30	11.3	29

[1] Continued at end of month.
[2] Continued from preceding month.
[3] Crest occurred previous month.
[4] Highest stage during the month.

WEATHER ON THE NORTH ATLANTIC OCEAN

By H. C. HUNTER

Atmospheric pressure.—For most of the portion of the North Atlantic Ocean that is covered by reports received the pressure during December 1940 averaged higher than normal. This was notably the case for the southeastern part, where the land station at Lisbon, Portugal, shows departure of 8.1 millibars (0.24 inch). For nearly all of the southwestern part, however, particularly the northern Gulf of Mexico, pressure averaged less than normal.

The first half of the month was marked by somewhat higher pressure than the second half over substantially all the North Altantic areas studied.

The pressure extremes found in available vessel reports were 1043.7 and 984.1 millibars (30.82 and 29.06 inches). The high mark was noted during the forenoon of the 5th by the Portuguese steamship *San Miguel*, near 38° N., 35° W. In a not very distant part of the ocean, 39° N., 45° W., the lowest reading was taken at 2 p. m. of the 26th on the U. S. S. *Tuscaloosa*. The latter reading was unusually low for this portion of the North Atlantic, which is not remote from the normal location of the Azores HIGH.

TABLE 1.—*Averages, departures, and extremes of atmospheric pressure (sea level) at selected stations for the North Atlantic Ocean and its shores, December 1940*

Station	Average pressure	Departure from normal	Highest	Date	Lowest	Date
	Millibars	*Millibars*	*Millibars*		*Millibars*	
Lisbon, Portugal	1,027.7	+8.1	1,035	5, 28	1,010	21
Horta, Azores	1,022.3	+1.6	1,041	5	1,000	25
Belle Isle, Newfoundland	1,007.5	+0.4	1,030	5	989	2
Halifax, Nova Scotia	1,017.6	+3.4	1,035	19	1,001	29
Nantucket	1,019.0	+1.4	1,037	19	998	29
Hatteras	1,020.3	0.0	1,033	18	999	29
Turks Island	1,016.5	−0.4	1,020	18, 19	1,011	26, 27
Key West	1,016.3	−2.3	1,025	4	1,000	26
New Orleans	1,017.6	−2.7	1,030	17	989	26

NOTE.—All data based on available observations, departures compiled from best available normals related to time of observation, except Hatteras, Key West, Nantucket, and New Orleans, which are 24-hour corrected means.

A few hours after the *Tuscaloosa's* reading, during the early evening of the 26th, pressure readings which similarly were very low for a winter month and for the region of occurrence were noted over the northwestern Gulf of Mexico, the lowest of these vessel readings at hand being 989.2 millibars (29.21 inches) from the American S. S. *Arizona*, when about 60 miles to southward of the southeast coast of Louisiana.

Cyclones and gales.—The reports that have arrived fail to indicate any important storm over the North Atlantic during the first fortnight. While the remainder of the month was somewhat more turbulent, yet it apparently was less so than December usually is.

The main North Atlantic has furnished six reports of whole gales encountered by vessels, as shown in the accompanying table, and two other reports have come from Gulf of Mexico waters.

A well-developed LOW system, extending far from north to south, moved eastward from North America onto the Atlantic during the 20th and 21st. During the 22d and the early hours of the 23d the southern part of the system was sharply developed, and near the 40th parallel, as it advanced from about 60° to 43° west longitude it caused force 10 winds, as reported by the Coast Guard cutters *Champlain* and *Bibb* and a force 9 wind, as reported by the cutter *Spencer*.

The morning of the 26th found a strong LOW near the northeast coast of Texas, whence it advanced eastward and northeastward to Georgia and then northward. Unusually strong winds resulted over much of the Gulf of Mexico; the American M. S. *J. A. Moffett, Jr.*, in the extreme western part of the gulf and the American S. S. *Agwistar*, hove to off Progreso, had whole gales during the 26th or 27th.

A press dispatch states that in the town of Becujal, western Cuba, "10 persons were killed and 150 injured by freakish gale winds." It seems possible that this havoc resulted from a tornado within the southeast quadrant of the low-pressure area. Another report is to the effect that in the state of Vera Cruz, Mexico, there were 9 dead and many injured, because of high winds, presumably of the general circulation connected with the LOW and the marked HIGH which followed it.

Fog.—Over most North Atlantic waters, as far as reports indicate, fog was once more of very rare occurrence during the first half of the month, but somewhat more frequent from the 16th onward, notably during the final 8 days. While more was reported than during the preceding month, especially from the northwestern Gulf of Mexico and waters to eastward of the Middle Atlantic and New England States, yet there are few areas where there seems to have been more fogginess than in an average December.

The 5°-square, 40° to 45° N., 70° to 75° W., furnished reports of fog on 7 days, the greatest number indicated by any square. Two squares adjoining it had fog on 5 days each, as did also one square in the northwestern Gulf of Mexico, namely 25° to 30° N., 90° to 95° W.

No report has come of fog occurring anywhere to eastward of the 50th meridian.

Several accidents near New York resulted from foggy weather. On the 12th the steamers *Berkshire* and *Charles L. O'Connor* collided outside Sandy Hook, but each, though damaged, was able to make port unassisted. On the 29th a less serious collision in East River and a grounding in the harbor were blamed on fog.